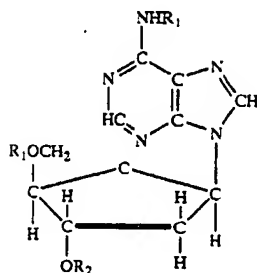


**AMENDMENTS TO THE CLAIMS:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

1-55 (cancelled).

56 (New). A method for treating or preventing radiation-induced cellular damage or sunlight-induced cellular damage comprising administering to an animal an effective amount of a composition comprising an acyl derivative of 2'-deoxyadenosine, having the formula

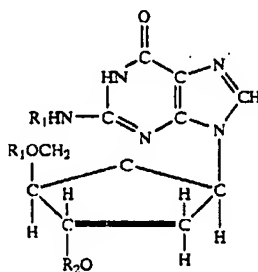


wherein R<sub>1</sub>, R<sub>2</sub>, and R<sub>3</sub> are the same or different and each is hydrogen or an acyl group derived from

- (a) an unbranched fatty acid with 3 to 22 carbon atoms,
- (b) an amino acid selected from the group consisting of glycine, the L forms of alanine, valine, leucine, isoleucine, tyrosine, proline, hydroxyproline, serine, threonine, cysteine, aspartic acid, glutamic acid, arginine, lysine, histidine, carnitine, and ornithine,
- (c) nicotinic acid, or

(d) a dicarboxylic acid having 3 to 22 carbon atoms, provided that not all of  $R_1$ ,  $R_2$ , and  $R_3$  are H, and where  $R_3$  is not H, then  $R_1$  and/or  $R_2$  may also be acetyl, or a pharmaceutically acceptable salt thereof, and a pharmaceutically acceptable carrier.

57 (New). A method for treating or preventing radiation-induced cellular damage or sunlight-induced cellular damage comprising administering to an animal an effective amount of a composition comprising an acyl derivative of 2'-deoxyguanosine having the formula

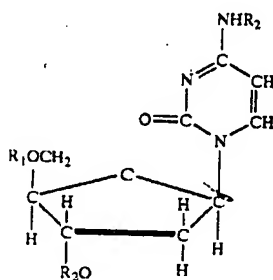


wherein  $R_1$ ,  $R_2$ , and  $R_3$  are the same or different and each is hydrogen or an acyl group derived from

- (a) an unbranched fatty acid with 3 to 22 carbon atoms,
- (b) an amino acid selected from the group consisting of glycine, the L forms of alanine, valine, leucine, isoleucine, tyrosine, proline, hydroxyproline, serine, threonine, cysteine, aspartic acid, glutamic acid, arginine, lysine, histidine, phenylalanine, carnitine, and ornithine,
- (c) nicotinic acid, or

(d) a dicarboxylic acid having 3 to 22 carbon atoms, provided that not all of  $R_1$ ,  $R_2$ , and  $R_3$  are H, and where  $R_3$  is not H, then  $R_1$  and/or  $R_2$  may also be acetyl, or a pharmaceutically acceptable salt thereof, and a pharmaceutically acceptable carrier.

58 (New). A method for treating or preventing radiation-induced cellular damage or sunlight-induced cellular damage comprising administering to an animal an effective amount of a composition comprising an acyl derivative of 2'-deoxycytidine, having the formula

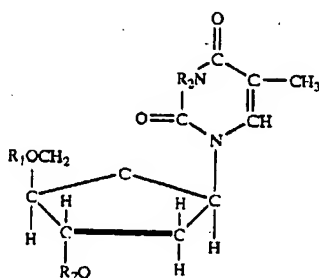


wherein  $R_1$ ,  $R_2$ , and  $R_3$  are the same or different and each is hydrogen or an acyl group derived from

- (a) an unbranched fatty acid with 3 to 22 carbon atoms,
- (b) an amino acid selected from the group consisting of glycine, the L forms of alanine, valine, leucine, isoleucine, tyrosine, proline, hydroxyproline, serine, threonine, cysteine, aspartic acid, glutamic acid, arginine, lysine, histidine, carnitine, and ornithine,
- (c) nicotinic acid, or

(d) a dicarboxylic acid having 3 to 22 carbon atoms, provided that not all of  $R_1$ ,  $R_2$ , and  $R_3$  are H, and where  $R_3$  is not H, then  $R_1$  and/or  $R_2$  may also be acetyl, or a pharmaceutically acceptable salt thereof, and a pharmaceutically acceptable carrier.

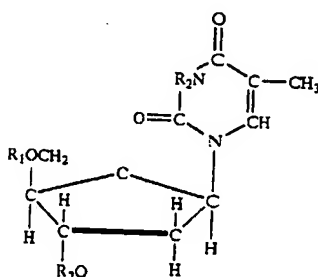
59 (New). A method for treating or preventing radiation-induced cellular damage or sunlight-induced cellular damage comprising administering to an animal an effective amount of a composition comprising an acyl derivative of 2'-deoxythymidine, having the formula



wherein  $R_1$  is an acyl group derived from

- (a) an unbranched fatty acid with 3 to 15 or 17 to 22 carbon atoms,
- (b) an amino acid selected from the group consisting of glycine, the L forms of alanine, valine, leucine, isoleucine, tyrosine, proline, hydroxyproline, serine, threonine, cysteine, aspartic acid, glutamic acid, arginine, lysine, histidine, carnitine, and ornithine,
- (c) nicotinic acid, or
- (d) a dicarboxylic acid having 3 to 22 carbon atoms, and  $R_2$  and  $R_3$  are H, or a pharmaceutically acceptable salt thereof, and a pharmaceutically acceptable carrier.

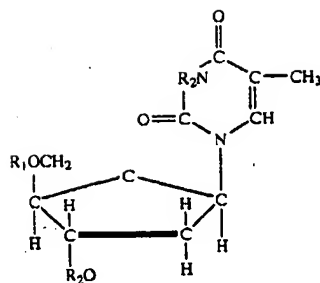
60 (New). A method for treating or preventing radiation-induced cellular damage or sunlight-induced cellular damage comprising administering to an animal an effective amount of a composition comprising an acyl derivative of 2'-deoxythymidine, having the formula



wherein R<sub>1</sub> is H, R<sub>2</sub> is an acyl group derived from

- (a) an unbranched fatty acid with 3 to 13 or 15 to 22 carbon atoms,
- (b) an amino acid selected from the group consisting of glycine, the L forms of alanine, valine, leucine, isoleucine, tyrosine, proline, hydroxyproline, serine, threonine, cysteine, aspartic acid, glutamic acid, arginine, lysine, histidine, carnitine, and ornithine,
- (c) nicotinic acid, or
- (d) a dicarboxylic acid with 3 to 22 carbon atoms, and R<sub>3</sub> is H or a pharmaceutically acceptable salt thereof, and a pharmaceutically acceptable carrier.

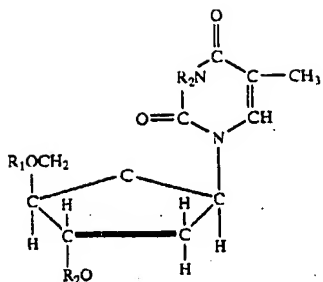
61 (New). A method for treating or preventing radiation-induced cellular damage or sunlight-induced cellular damage comprising administering to an animal an effective amount of a composition comprising an acyl derivative of 2'-deoxythymidine, having the formula



wherein R<sub>1</sub> and R<sub>2</sub> are the same or different and each is an acyl group derived from

- (a) an unbranched fatty acid with 5 to 22 carbon atoms;
- (b) an amino acid selected from the group consisting of glycine, the L forms of alanine, valine, leucine, isoleucine, tyrosine, proline, hydroxyproline, serine, threonine, cysteine, aspartic acid, glutamic acid, arginine, lysine, histidine, carnitine, and ornithine,
- (c) nicotinic acid, or
- (d) a dicarboxylic acid with 3 to 22 carbon atoms, and R<sub>3</sub> is H or a pharmaceutically acceptable salt thereof, and a pharmaceutically acceptable carrier.

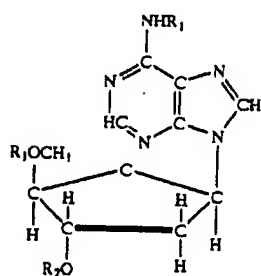
62 (New). A method for treating or preventing radiation-induced cellular damage or sunlight-induced cellular damage comprising administering to an animal an effective amount of a composition comprising an acyl derivative of 2'-deoxythymidine, having the formula



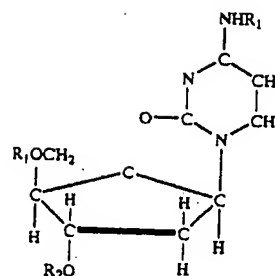
wherein  $R_1$  and  $R_2$  are the same or different and each is an acyl group derived from

- (a) an unbranched fatty acid with 2 to 22 carbon atoms,
- (b) an amino acid selected from the group consisting of glycine, the L forms of alanine, valine, leucine, isoleucine, tyrosine, proline, hydroxyproline, serine, threonine, cysteine, aspartic acid, glutamic acid, arginine, lysine, histidine, carnitine, and ornithine,
- (c) nicotinic acid or
- (d) a dicarboxylic acid with 3 to 22 carbon atoms, and  $R_3$  is an acyl group derived from an optionally substituted benzoyl or heterocyclic carboxylic acid that is substantially nontoxic, or a pharmaceutically acceptable salt thereof, and a pharmaceutically acceptable carrier.

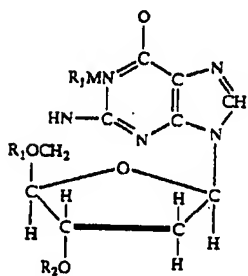
63 (New). A method for treating or preventing radiation-induced cellular damage or sunlight-induced cellular damage comprising administering to an animal an effective amount of a composition comprising an effective amount of each of at least two compounds selected from at least two of the groups of compounds having formulae



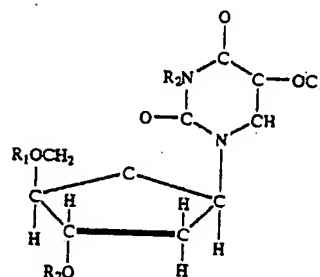
(I)



(III)



(II)



(IV)

wherein  $R_1$ ,  $R_2$ , and  $R_3$  are the same or different and each is H or an acyl group derived from a carboxylic acid, provided that at least one of said substituents  $R_1$ ,  $R_2$ , and  $R_3$  on each of said groups of compounds is not hydrogen, or pharmaceutically acceptable salts thereof, and a pharmaceutically acceptable carrier.